<u>**Project Business Case**</u>

Health Alert Network Communications System

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I. <u>Project Purpose</u>

In accordance with the requirements for the Bioterrorism Emergency Preparedness and Response Cooperative Agreement, the Centers for Disease Control and Prevention (CDC) require that all States, Territories, and major metropolitan areas (e.g. New York City, Los Angeles, Chicago, etc.) establish a Health Alert Network (HAN) to develop a nationwide, integrated information and communications platform. This platform will be used to distribute health alerts relating to emergency/disaster events (i.e. Bioterrorism). In addition to this function, the HAN will also serve as a means of disseminating health advisories and updates of prevention guidelines and other pertinent information. This information will come from the CDC, the North Dakota Department of Health (NDDoH), local public health, hospitals, and other agencies. This network will also provide health and medical distance learning/training capabilities, the capacity for the exchange of disease surveillance information with electronic reporting, and any other related initiatives to strengthen emergency preparedness at the local and state levels.

When complete, the Health Alert Network will ensure:
- High-speed, continuous, and secure Intranet/Internet connections for local public health facilities and other health-related organizations, providing access to CDC's prevention recommendations, practice guidelines, and disease data
- The capability for rapid and secure communications with health and medical first responder agencies and other health officials
- The capacity to securely transmit health surveillance, laboratory, and other sensitive data
- On-line, Intranet-based distance learning and training systems (i.e. 2-way interactive video conferencing)
- A redundant communication system for the broadcast of warning alert notifications, for example: e-mail, faxing, voicemail (with text-to-speech conversion), cell phone/pager technology, text messaging, web portal, and interactive video.
- Message receipt confirmation reporting with real-time results
- End-user access capability to update profile preferences and contact information
- Geographic Information System (GIS) capabilities

II. <u>Project Plan Assessment</u>

A survey and inventory of the existing technological capacities of local public health facilities would have to be done first to determine the State's current health technological infrastructure and what impact it would have on the state backbone system (StageNet).

Items to be surveyed at public health facilities would include:
- Intranet/Internet connectivity (i.e. current connection to the StageNet)
- Inventory of current workstation/server hardware and software
- Inventory of emergency communication devices (i.e. cell phones, pagers, PDA, etc.)

In addition, the Information Technology Department (ITD) would be integral in determining what the actual bandwidth usage levels and bandwidth deficiencies of such a HAN project would have on the StageNet. Increasing the bandwidth capacity for a new HAN network would then have to be addressed.

Using the Public Health Technology Assessment as a baseline, we would then start the HAN project in phases. We have identified 3 phases or project objectives. If two or more phases are mutually exclusive, their timelines could coincide with one another.

Phase 1:
Public Health technology-level assessment needs to be completed. Acquire and install core network hardware infrastructure for the HAN. Provide high-speed, continuous Intranet/Internet connectivity to the StageNet network for the 29 primary public health units (PHU) that currently do not have such a connection. This connection would be provided through the installation of ATM T1 lines. In addition, this phase of the project will also provide the lead (9) PHU with the equipment and the ability for 2-way interactive video-conferencing.

Phase 2:
Research specifications, develop and submit an RFP, and acquire a Health Alert Network communications system solution from a qualified vendor. This HAN package will have the capability for rapid and secure communications with first responder agencies and other health officials using redundant communications platforms (e.g. e-mail, fax, voicemail, cell phone/pager technology, etc.)

Phase 3:
Implementation of the HAN communications package solution
Activities include:
- Hardware architecture design of the network (to be hosted by ITD)
- Configuration of the Web Portal and central database repository
- Alerting notification set-up and configuration
- System testing
- End-user and Administrator training

III. Association with Other Projects

The Health Alert Network will have a direct correlation to the North Dakota Department of Health's National Electronic Disease Surveillance System (NEDSS) project called DREAMS. In association with the DREAMS project, HAN will be used to notify appropriate personnel based upon spikes or other variances of syndromic surveillance data. In addition, it will offer the DREAMS project a secure means of transmitting surveillance, laboratory, or other sensitive information back and forth to local PHU as needed.

IV. Cost/Benefit Analysis

All public health units across the state will benefit from the federal HAN program. Without the implementation of a HAN system, inadequate alerting and communications will continue to exist for the public health and medical communities. The HAN will allow the primary PHU to have a continuous, high-speed connection to the StageNet, which is a highly secure and self-repairing network, for the receipt of Health Alert Network messages. It will also offer the lead PHU the capability for 2-way interactive video-conferencing for on-line, intranet-based distance learning and training. In addition, the North Dakota Department of Health (NDDoH) will have a secure means of transmitting surveillance, laboratory, or other sensitive information back and forth to local PHU as needed.

The entire project will be funded with the Federal CDC Grant.

Funding Estimates:
Phase 1:

HAN core network infrastructure	$ 265,000.00
Contract Services (PH assessment)	$ 45,624.00
ATM T1 Installation	$ 264,000.00
Video Conferencing Equipment	$ 234,000.00
Phase 2:	
HAN Communications Package	$ 203,000.00
Phase 3:	
ITD hosting/setup of HAN application	$ 66,000.00
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Total	$ 1,077,624.00

The North Dakota Information Technology Division (ITD - Telecommunications) will coordinate the installation of core network infrastructure and high-speed broadband ATM T1 connections to the State wide area network (StageNet) for the 28 primary PHU.

As for the HAN alerting and communications solution (Phase 2 & 3), there are two (2) alternatives that can be pursued.

Alternative #1: Contract with a HAN communications "service" that will host and maintain a HAN application for the state. This "service" would be hosted out of state.

Alternative #2: Purchase/Own a HAN communications package that would be hosted and maintained within the state.

Alternative Comparisons

Alternative #1: Service Provider
Typically a service provider will lease their HAN communications package to clients on a monthly basis. For this monthly lease fee they guarantee that they will provide 24/7 accessibility to an alerting/communications solution.

These solutions can range from $250,000 - $600,000 for Year 1. Subsequent years tend to be in the range of $150,000 - $350,000. The subsequent year's fees are primarily comprised of maintenance, hosting, user license subscriptions, and usage costs. These services will usually bill for e-mail, fax, phone call, and text messaging whether it is a local communication or not.

Alternative #2: Purchase a HAN communications solution
If purchasing a HAN communications solution, the State takes on the burden of hosting the hardware and software application, providing network administration and server security, and addressing any telecommunications issues on their own.

A fully CDC grant compliant HAN package can be in the range of $250,000 - $600,000 for Year 1. The subsequent years tend to be in the range of $15,000 - $200,000. Plus, one huge benefit is that per-user license subscriptions may not be applicable when purchasing a system.

Conclusion:
Alternative #2 would best suit the NDDoH's needs for a State of North Dakota's size. Although there is a large upfront cost for Year 1, the subsequent years tend to be much lower in cost and the sustainability of the HAN is a major consideration in developing this project. If the Bioterrorism grant funds should ever cease, North Dakota would still have a HAN product in place and functional and would not be subject to a vendors "lease" agreement. The application software-maintenance agreement is all that would have to be abandoned. In addition, the NDDoH will only consider a vendor that does not incorporate per-user seat licensing into its product so that subsequent years software-maintenance costs would be dramatically reduced.

Of course if federal funding were to cease, some other strategies would have to be considered for the high-speed broadband connections at the local public health level. These connections would also be funded on a monthly basis with Bioterrorism grant funds. It would be diligent to consider some other federal funding sources that are available such as the Universal Service Fund for Rural Healthcare to help with the ongoing costs of sustaining high-speed connectivity to the North Dakota HAN at the local public health level.

V. **Project Schedule**

Activity	Date(s)
Phase 1 to begin: Develop criteria for survey and begin Public Health Technology Assessment contract negotiations with the Association of Counties (NDACo)	March 1, 2003
Phase 2 to begin: Research and compile specifications for HAN communications package RFP	April 1, 2003
Public Health Technology Assessment to begin	May 1, 2003
HAN RFP to be completed and submitted for Departmental review	June 23, 2003
Begin planning HAN network infrastructure with ITD and the Association of Counties	July 1, 2003
Release of RFP to vendors	July 7, 2003
Public Health Technology Assessment to be completed	July 31, 2003
HAN vendor proposals due	August 1, 2003
HAN vendor proposals evaluated with selection of finalists and Web demonstrations scheduled	August 4 – 15, 2003
Selection of preferred HAN vendor and Contract negotiations	August 18 – 22, 2003
Contracts with HAN vendor and NDACo to be finalized and signed	August 29, 2003
Purchase Order for ITD to be finalized for the purchase of HAN core network infrastructure. Begin planning the installation schedule for ATM T1 and videoconferencing endpoints.	August 29, 2003
Purchase Order for ITD to be finalized for the hosting/hardware/software/licensing fees associated with the HAN communications package application	August 29, 2003
Contracts submitted to CDC for approval	September 2, 2003

Activity	Date(s)
Phase 2 to be complete	September 30, 2003
Phase 3 to begin: Implementation of the HAN communications package. Kick-off meeting with selected HAN vendor (Dimension Data) for pre-planning of implementation phase	October 21, 2003
HAN vendor initial needs assessment of current technology level and begin hardware architecture design of the network	November 17, 2003
Installation and Configuration of HAN application which includes configuration of the Web Portal and central database repository and Alerting notification set-up and configuration	January 5, 2004
Testing of HAN application to include additional development and design if needed	February 9, 2004
Phase 1 to be complete	March 1, 2004
Training of End-Users and Administrators of the HAN application	March 8, 2004
Phase 3 to be complete	April 1, 2004

VI. <u>Risk Assessment</u>

Beings this project is a federal requirement as part of the Bioterrorism Emergency Preparedness and Response Cooperative Agreement and federally funded, we feel the risks of not completing this project because of inadequate funding are relatively low. We have already received funding for fiscal year 2004.

In an attempt to identify emerging issues and additional risks associated with this project, the NDDoH uses a variety of sources.

1.) The NDDoH has implemented a Bioterrorism Grant Committee. This committee meets on a monthly basis with a liaison from all nine (9) focus areas of the CDC Bioterrorism Grant. The HAN project is affiliated with Focus Area E of the Grant. These meetings are used to give a status report of all focus areas current projects and open up discussion on any emerging issues associated with each project.

2.) The NDDoH participates as a member of the Homeland Security Integration Committee. This committee meets on a monthly basis and is comprised of liaisons from the NDDoH, the Division of Emergency Management (DEM), and the Department of Agriculture. Status reports from all focus areas current projects are given and discussion

is opened up on any emerging issues associated with each project. This committee was developed to most efficiently use each agency's own Bioterrorism Grant funds and to avoid any overlapping of projects between agencies with similar objectives. This committee is useful in gaining a perspective of projects from outside the NDDoH.

3.) The NDDoH also has a HAN technical advisory team associated with this project. The members consist of:

Tim Wiedrich – Emergency Preparedness & Response Section Chief
Barry Stein – HAN Coordinator
Darin Meschke – Lead DoH IT Coordinator and Director of Vital Records
Alan Grinsteinner – DoH Disease Control IT Coordinator
Tim Paulson – ITD (Telecommunications)
Darin Wald – ITD (Telecommunications)
Jeff Carr – ITD
Duane Schell – ITD
Dan Sipes – ITD
Darrin Lee – ITD (optional)
Bruce Cameron – NEDSS vendor representative (occasional)
Badrul Husain – HAN vendor delivery director
Joseph Prabhakar – HAN vendor project manager
Chris Furtado – HAN vendor technical lead

The purpose of this team is to address matters of a more technical nature that emerge throughout the course of the project and to provide some insight as to potential risks or vulnerabilities with the project. The members communicate through both one-to-one meetings with the HAN Coordinator and also through teleconferences with HAN vendors when technical issues need to be discussed.

4.) ITD has also helped with the project in an oversight advisory capacity. Members of the ITD Large Project oversight group that have worked on the HAN project in some capacity include: Dirk Huggett, Jenny Witham, Boris Miller, and Dennis Klipfel. The ITD oversight analyst will also help to identify any issues or risks associated with the project. Meetings with the oversight analyst have typically occurred as a one-to-one meeting with the HAN Coordinator.

With a limited number of risk factors involved, we feel that the chance of success of this project is very high.

VII. Project Approval

Name	Title	Role	Signature	Date
Tim Wiedrich	DoH - Emergency Preparedness and Response, Section Chief	Project Supervisor		
Barry Stein	DoH - HAN Coordinator	Project Coordinator		